

**REMARKS**

Claims 1-41 are pending for examination with claim 1 being the sole independent claim. Claims 42-88 were previously canceled as a result of a restriction requirement. A Request for Continued Examination ("RCE") including an amendment to claim 1 was filed in response to the final Office Action, mailed March 1, 2006, which rejected claims 1-15, 18-34 and 37. The instant Office Action was subsequently issued. No claim amendments are included here.

**Teleconference**

Applicants thank Examiner Fox for his time and courtesy during the teleconference conducted on June 27, 2006, with Robert Skrivanek and the undersigned concerning this application. During the teleconference, the patentability of independent claim 1 was discussed in view of U.S. Patent No. 6,629,546 to Eidsmore et al. ("Eidsmore") and U.S. Patent No. 6,651,871 to Ohmi et al. ("the '871 patent"). No agreement was reached. Examiner Fox also referred to col. 7, lines 5-20 of U.S. Patent No. 5,983,933 to Ohmi et al. ("the '933 patent") as supporting the combination applied in rejecting the claims.

Attorneys Skrivanek and Donahoe also inquired as to the then-current application status found on the U.S. Patent Office PAIR website which indicated that a final Office Action was set for mailing from the USPTO. In particular, the Attorneys inquired as to the finality of a first action following the filing of the RCE with amendments to the claims. Examiner Fox explained the basis for the final status of the Office Action but indicated that he would consider a request for reconsideration on the merits.

**Prior Claim Amendments**

The following amendments to claim 1 were included with the filing of the RCE:

a substrate having a substrate body that includes a first substrate port and a second substrate port formed in a first surface and a first fluid passageway formed within the substrate body that extends in a first direction and fluidly connects the first substrate port to the second substrate port; and

a manifold having a manifold body that includes a first manifold port formed in a first surface, a second manifold port formed in a second surface that is transverse to the first surface,

and a fluid passageway formed within the manifold body that fluidly connects the first manifold port to the second manifold port;

wherein the substrate further includes a channel formed in the first surface of the substrate body that extends in a second direction, the channel being adapted to position the manifold within the channel so that the first surface of the substrate body and the first surface of the manifold body are aligned in a common plane.

#### Finality of the Current Rejection

The Office Action states that the action is made final because “all claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office Action if they had been entered in the application prior to entry under 37 CFR 1.114.” (Office Action at page 3.) Applicants respectfully disagree and assert that the claims could not have been rejected on the same grounds because the claim amendments describe aspects that were not previously included in the independent claim. Further, the grounds for the present rejection (Eidsmore ‘546 in view of Ohmi ‘933 and Ohmi ‘871) are different than the grounds of the immediately preceding rejection (Eidsmore ‘546 in view only of Ohmi ‘871).

Regarding the claims as amended, claim 1 recites that the first fluid passageway associated with the substrate is “formed within the substrate body,” whereas prior to this amendment, claim 1 recited that the first fluid passage was “fluidly connected the first substrate port to the second substrate port” but did not include any further recitation concerning the location of the passageway. Similarly, claim 1 as amended also recites that the fluid passageway associated with the manifold is “formed within the manifold body.” In addition, claim 1 as amended also recites that the channel formed in the first surface of the substrate body is “adapted to position the manifold within the channel.” Prior to the amendment, claim 1 recited the channel “positioned the manifold so that the first surface of the substrate body and the first surface of the manifold body are aligned in a common plane,” but did not include any further recitation concerning the location of the manifold relative to the channel. The Office Action does not appear to address the claim amendments at all.

Regarding the grounds of the rejections, the ‘933 patent referred to by Examiner Fox in the teleconference and then relied on in the instant Office Action to provide support for the

asserted combination was not applied in rejecting the claims in the Office Action that preceded the filing of the RCE. Instead, the '933 patent is applied for the first time against the claims in the current rejection. Thus, although the stated basis for the current rejection is Eidsmore '546 in view of Ohmi '871, the asserted rational for the current rejection relies solely on Eidsmore '546 in view of Ohmi '933.

For all of the above reasons, the present rejection is not on the same grounds as the prior rejection and Applicants respectfully request reconsideration and withdrawal of the finality of the rejection.

#### Claim Rejections

Claims 1-15 and 18-34 are currently rejected under 35 U.S.C. §103(a) as being unpatentable over Eidsmore in view of the '871 patent. As previously noted, although the stated basis of rejection is "over Eidsmore et al '546, of record, in view of Ohmi '871" (see Office Action at page 2, lines 3-4) the actual basis appears to be Eidsmore '546 in view of Ohmi '933 (see Office Action at page 2, last paragraph).

As the Examiner recognizes, none of the references alone describe the system recited in claim 1, consequently, the asserted basis for the rejection of claim 1 relies on a combination of references. Applicants respectfully assert that the claim rejections should be reconsidered and withdrawn because no single reference describes the system recited in claim 1, and because the prior art as a whole does not teach or suggest such a system. The impropriety of the current rejection is explained in detail below.

First, Eidsmore describes the use of "bridge fittings" that "transfer fluid between adjacent fluid components." (Col. 5, lines 23-25.) Eidsmore also describes that a "backing plate" may have an "interior groove ... for receiving a plurality of bridge fittings." (Col. 6, lines 6-9.) Further, Eidsmore describes that "the backing plate or channel block 40 ... may further include ... one or more interlinking transverse or branch channels." (Col. 8, lines 45-51.) Nowhere, however, does Eidsmore teach or suggest the desirability of employing "a substrate having ... a first fluid passageway formed within the substrate body that extends in a first direction and fluidly connects the first substrate port to the second substrate port" as recited in claim 1, let alone a combination where such a substrate further includes a "channel adapted to position the manifold within the channel."

In contrast to suggesting the desirability of the above combination, Eidsmore discredits and discourages the asserted combination by repeatedly describing the disadvantages resulting from an approach that employs “modular blocks” which have “internal flow passageways.” (Col. 1, lines 37-63.) For example, in the Background of the Invention, Eidsmore describes that “[o]ne disadvantage to these types of prior art modular systems is that the entire modular block is made of high purity metal. Further, these block components also have higher manufacturing costs due to the complexity of machining multiple passageways of a single block as well as a higher risk of expensive scrap being formed due to the manufacturing complexity” (emphasis added). Id. Thus, even if Eidsmore describes structure corresponding to “a substrate” which “includes a channel,” Eidsmore expressly teaches away from including any “fluid passageway formed within the substrate body.”

Eidsmore teaches that it is advantageous to reduce the volume of expensive material (i.e., semiconductor quality material) “as compared to the conventional ... blocks,” i.e., reduce the volume of expensive material when compared with blocks that include an internal fluid passageway. (Col. 1, lines 53-59 and Col. 5, lines 35-54.) As a result, Eidsmore avoids the use of internal fluid passageways in a substrate because “prior art modular component blocks use a large volume of expensive material” while “the present invention [of Eidsmore] provides a gas flow passage that is defined by a bridge fitting 50 which has a substantially reduced volume of expensive material ... this results in a more economic gas path manifold which is cheaper and easier to make than the prior art component blocks.” (Col. 5, lines 47-54.) Indeed, the entire disclosure of Eidsmore is directed to manifold assemblies designed to conduct process fluid through manifold bridges instead of through fluid passageways formed in the body of the substrate.

Second, the Office Action refers to the ‘933 patent which states that, “the couplings 30, 38 may each be in the form of a rectangular parallelipedal block coupling having a V-shaped channel. Conversely, the couplings 31 and the like may each comprise two blocks and a U-shaped communication channel forming member supported by the blocks,” to support an argument that there is equivalence, or interchangeability between a tube-stub structure and internal fluid passageways formed in a solid block.

Thus, the Office Action offers a combination including a first reference that describes a tube-stub structure (e.g., bridge fittings 50) and branch channels 41 but expressly teaches away

from internal fluid passageways, and a second reference that may indicate that tube stubs (e.g., joints 43, 45 connected with tubular projection 46) and internal fluid passageways are interchangeable but says nothing concerning branch channels or any similar structure. Such a combination is improper because the disclosure of Eidsmore criticizes, discredits and expressly teaches away from the use of any internal fluid passageways in a substrate let alone the use of internal fluid passageways in combination with branch channels. As a result, the required suggestion or motivation to combine the references is missing even if the second reference teaches interchangeability of a tube-stub structure and internal fluid passageways (Applicants assert that it does not). (See MPEP 2143.03.) Accordingly, the Office Action fails to present a *prima facie* case of obviousness.

Further, nowhere does Ohmi describe “a substrate having a substrate body that includes ... a first fluid passageway formed within the substrate body” where the substrate also includes a “channel adapted to position the manifold within the channel” as recited in claim 1. Not only does Ohmi fail to teach or suggest such a structure, the blocks described in Ohmi also do not appear to provide any location suitable for the inclusion of a channel for positioning a manifold in a block that also includes an internal fluid passage. (See Fig. 5 of the ‘871 patent.) In particular, Ohmi fails to provide a location suitable for inclusion of “a channel formed in the first surface of the substrate body that extends in a second direction” where “a first substrate port and a second substrate port [are] formed in [the] first surface,” as recited in claim 1. Thus, assuming *arguendo* that Ohmi does teach interchangeability of tube stubs and internal fluid passageways, Ohmi fails to teach or suggest that those two structures can be employed in the same substrate body.

Accordingly, for at least the above reasons, Applicants respectfully request that the rejection of claim 1 under 35 U.S.C. §103(a) be reconsidered and withdrawn. In addition, Applicants respectfully assert that each of the dependent claims 2-15, and 18-34 is also allowable because each depends either directly or indirectly from claim 1 and request that the rejections of claims 2-15 and 18-34 also be reconsidered and withdrawn.

The Office Action also rejects dependent claim 37 under 35 U.S.C. §103(a) as allegedly being unpatentable over Eidsmore in view of Ohmi as applied to claim 1 and further in view of U.S. Patent No. 6,634,385 to Symington (“Symington”). Claim 37 depends from claim 1. Applicants respectfully assert that claim 37 is allowable because Symington also fails to cure the



deficiencies of Eidsmore and Ohmi as applied to claim 1 and request that the rejection of claim 37 also be reconsidered and withdrawn.

Allowable Subject Matter


Claims 16-17, 35-36 and 38-41 are indicated as containing allowable subject matter. Applicants have deferred re-writing claims 16-17, 35-36 and 38-41 in independent form in view of the arguments provided herein regarding the patentability of the independent claim from which they depend.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50/2762.

Respectfully submitted,  
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